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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/602,037	06/23/2000	James R. Bortolini	Bortolini 20-13-87-4-27	9055

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EXAMINER	
LEO, LEONARD R	
ART UNIT	**PAPER NUMBER**
3743	6

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/602,037	Applicant(s) BORTOLINI ET AL.	
	Examiner Leonard R. Leo	Art Unit 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *17 and 24-27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 18-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of the species of Figure 6 in Paper No. 4 is acknowledged. The traversal is on the ground(s) that the generic claim is allowable. This is not found persuasive because the allowability of a generic claim does not negate the propriety of an election requirement.

The requirement is still deemed proper and is therefore made FINAL.

Claims 17 and 24-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6, 10 and 18-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the fluid type barrier" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation "the fluid type barrier" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 20, the recitation of "at least on aperture" in line 2 requires grammatical correction.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 11-13 and 18-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-12 and 14-16 of U.S. Patent No. 6,304,447 in view of Wickelmaier et al.

The patent claims all the claimed limitations of the application except an electromechanical actuator.

Wickelmaier et al discloses an electronic assembly comprising a substrate 2 with components 4; and a circulating fluid via electromechanical actuator 8 for the purpose of improving heat exchange.

Since the patent and Wickelmaier et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Wickelmaier et al would have been recognized in the pertinent art of the patent.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the patent an electromechanical actuator piezoelectric actuator for the purpose of improving heat exchange as recognized by Wickelmaier et al.

Claims 14-16 and 21-22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-12 and 14-16 of U.S. Patent No. 6,304,447 in view of Wickelmaier et al as applied to claims 11-13 and 18-20 above, and further in view of Murphy et al.

The combined teachings of the patent and Wickelmaier et al lacks a piezoelectric actuator.

Murphy et al discloses a fan comprising a rigid blade 12 and piezoelectric actuator 20 for the purpose of optimizing space and power requirements.

Since the patent and Murphy et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Murphy et al would have been recognized in the pertinent art of the patent.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the patent a piezoelectric actuator for the purpose of optimizing space and power requirements as recognized by Murphy et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 11-13, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wickelmaier et al in view of Rohner.

Wickelmaier et al discloses all the claimed limitations except liquid as the working fluid.

Rohner discloses an electronic assembly comprising a substrate 12 with components 10; and a circulating liquid 44 via pump 32 for the purpose of improving heat exchange.

Since Wickelmaier et al and Rohner are both from the same field of endeavor and/or analogous art, the purpose disclosed by Rohner would have been recognized in the pertinent art of Wickelmaier et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Wickelmaier et al a circulating liquid for the purpose of improving heat exchange as recognized by Rohner.

Regarding claim 12, Rohner discloses a first upper aperture 47 and a second bottom aperture 62.

Regarding claim 20, the substrate 12 of Rohner is oriented in a vertical direction.

Claims 14-16 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wickelmaier et al in view of Rohner as applied to claims 11-13, 18 and 20 above, and further in view of Murphy et al, as applied in the double patenting rejection above.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wickelmaier et al in view of Rohner as applied to claims 11-13, 18 and 20 above, and further in view of Suga et al.

The combined teachings of Wickelmaier et al and Rohner lacks an external circuit board portion.

Suga et al discloses an electronic assembly comprising a circuit board 10 with components 3; circulating working fluid 7 via a pump; and external circuit board portion (Figures 3B and 12) for the purpose of attaching the circuit board to a main or mother board 110.

Since Wickelmaier et al and Suga et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Suga et al would have been recognized in the pertinent art of Wickelmaier et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Wickelmaier et al an external circuit board portion for the purpose of attaching the circuit board to a main or mother board as recognized by Suga et al.

Allowable Subject Matter

Claims 1-10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claim 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

The anticipatory rejection in view of Wickelmaier et al is withdrawn.

The rejections under Frankeny et al and Kolm et al are withdrawn.

No further comments are deemed necessary at this time.

Although the copending application, which is now a patent, is referenced in the middle of the specification, a proper citation on a PTO-1449 along with a copy of the application would

have expedited prosecution. The Examiner hereby requests any and all pertinent documents related to the above application and any other related copending applications and/or patents.

Applicant is reminded of his duty to disclose under 37 CFR § 1.56, which states in part:

> **Duty to disclose information material to patentability.**
> (a) A patent by its very nature is affected with a public interest. ***The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability.*** Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned.

Conclusion

Any inquiry of a general nature, relating to the status of this application or clerical nature (i.e. missing or incomplete references, missing or incomplete Office actions or forms) should be directed to the Technology Center 3700 Customer Service whose telephone number is (703) 306-5648. Status of the application may also be obtained from the Internet: http://pair.uspto.gov/cgi-bin/final/home.pl

Any inquiry concerning this Office action should be directed to Leonard R. Leo whose telephone number is (703) 308-2611.

Leonard R Leo

LEONARD R. LEO
PRIMARY EXAMINER
ART UNIT 3743

May 19, 2003